

From owner-qrp-l@netcom.com Wed Dec 28 10:25:26 1994  
From: K7YHA@aol.com  
Date: Wed, 28 Dec 1994 09:20:29 -0500  
Message-Id: <941228092001\_620682@aol.com>  
Subject: 40 Meter KM/W Record Addendum

I am writing this BEFORE I check out my mail on the qrp-list for the last 24 hours.

The effort by AA4XX and KA3WTF to break the world record for KM/W on 40 meters was, in fact, valid. Unfortunately, I used the wrong coordinates for Wilkes-Barre, PA, based upon GPS data obtained about 2 weeks ago. While transferring the GPS data into the MiniProp Plus program, I made a typo on the default station data which made the path calculations between Fran and Paul longer than it actually is. The path between Wilkes-Barre, PA and Raleigh, NC is only 422 U.S. Miles (679 KM) based upon the corrected data entered into the computer program.

Does this change anything? It certainly does. While the original path was projected to be 651 miles the new path is shorter by 229 miles. This, of course, alters the KM/W figures by almost a million miles per watt.

The old record was not vaporized, merely shattered. Based upon the current figures, the new 40 meter KM/W world record now stands at 1,909,502.26 miles per watt (based upon 221 Microwatts over a 422 mile path).

Ok, all you math majors and land-locked sailors take your best shot....Arland can't even get it right using a computer!

I am sorry about any confusion caused by the error made in computing the path length. As I see it, the record has been broken by AA4XX and KA3WTF (my math errors not withstanding).

72 rich

PS: There will be another attempt to better this new record sometime in either January or February. Fran will be moving his station to Red Rock Mountain to reduce the ambient noise levels encountered near Wilkes-Barre. More on this as time permits.

From owner-qrp-l@netcom.com Wed Dec 28 11:34:50 1994  
Date: Wed, 28 Dec 94 09:20:27 -0600  
From: adams@chuck.dallas.sgi.com (chuck adams)  
Message-Id: <9412281520.AA22933@chuck.dallas.sgi.com>  
Subject: 40M Miles/Watt

Rich has posted the new record distance set by AA4XX and KA3WTF

on 40M.

Here is what I did and typically do when someone sends me a photo of a QSL card and their power levels.

I run to the QRZ CDRom data base, which I have online on a SGI workstation on the desk right next to the Explorer at the present time. I do a "call aa4xx ka3wtf" and I immediately get back

|       |                   |          |          |
|-------|-------------------|----------|----------|
| AA4XX | PAUL T. STROUD    | Class: E | 11/22/88 |
|       | 1318 ALDERMAN CIR | Born:    | 1/14/52  |
|       | RALEIGH, NC 27603 |          |          |

|        |                      |          |         |
|--------|----------------------|----------|---------|
| KA3WTF | FRANCIS P. SLAVINSKI | Class: G | 2/26/91 |
|        | 58 WILSON ST         | Born:    | 10/1/57 |
|        | LARKSVILLE, PA 18704 |          |         |

I then run over to another UNIX directory ~/k5fo/circle/states and do a "grep -i raleigh northcarolina" and get

35.772N 78.639W Raleigh (county seat)

and for "grep -i larksville pennsylvania" I get

41.245N 75.931W Larksville

I then add these two lines to a file by cutting and pasting, which takes just a second and run the great circle bearing program and then get

Raleigh 35.772N 78.639W

Larksville 41.245N 75.931W 20 652 405

which means that the heading from Raleigh to Larksville is 20 degrees and the distances are 652 km and 405 miles respectively.

By getting the GPS postitions, as obviously Rich has done, you can squeeze out a more accurate distance. The data base that I have consists of 125,478 cities/towns/gov parks/etc. from the last census database. This data base takes up almost 10MB of space.

I have given the program and database to QRZ CDRom, thus now giving a lot of people access to the database. The contents of same should be in the next release after Feb or March. Lloyd is going to write a GUI for the PC world to go with it.

Note: I converted the degrees/minutes/seconds format to a single floating point constant to reduce wear and tear on overhead and formatting.

Now my question is this. If I release the data for all the records on all the bands are we going to generate a fury of activity just for the sake of getting one's name in the "record" book. There are probably a lot of data points that haven't been submitted yet and I even think that on some bands the record isn't even close to what some people have already done, but just haven't taken the time to submit. Time will tell.

Please don't ask me to send the data to each and everyone of you and don't ask me to ftp it someplace. I'll let Lloyd handle that aspect of it. I don't want to get into an infinite loop here with questions and support issues.

dit dit

Chuck Adams K5FO CP-60 adams@sgi.com

From owner-qrp-1@netcom.com Wed Dec 28 14:12:06 1994  
From: K7YHA@aol.com  
Date: Wed, 28 Dec 1994 13:13:42 -0500  
Message-Id: <941228131339\_765793@aol.com>  
Subject: Re: 40M Miles/Watt

Yes, Charles, you probably have opened a Pandora's box regarding KM/W records. I really think that there are many QRPers out there who are going to be spurred on by Fran & Paul's success. I have already queried Mark Wilson at QST about doing an article on what it takes to do a record KM/W attempt on the low bands. Gee....we'll see if we can generate some more hate mail from the "Great Unwashed" readers of QST!

72 rich

From owner-qrp-1@netcom.com Wed Dec 28 20:20:26 1994  
From: ab4el@Cybernetics.NET (Stephen Modena)  
Message-Id: <9412282354.AA06611@Cybernetics.NET>  
Subject: A strong come back....  
Date: Wed, 28 Dec 1994 18:54:47 -0500 (EST)

Just checked the "who qrp-1" listing...over 180 addresses. That, I think, is a good, rapid recovery...though I don't know how many we had on board before the crash. :^)

Now, I just have to figure out why netcom won't take that subscribe request from Singapore. :^) Interesting what lands in my mailbox lately.

--

73/Steve/AB4EL ab4el@Cybernetics.NET in Raleigh, NC

From owner-qrp-l@netcom.com Thu Dec 29 00:24:54 1994  
Date: Wed, 28 Dec 1994 20:06:17 -0700 (MST)  
From: Rick Zabrodski <zabrodsk@med.ucalgary.ca>  
Subject: Another Norcal Sierra Lives!  
Message-Id: <Pine.SUN.3.91.941228194441.657A-100000@ume>

Finished the main board and 20 meter module yesterday. Reciever compared very well with my icom 751a/dsp audio filter. Took off a few turns on L7 to get the vfo range down to 150 khz from 160 khz. Only problem was no transmit output beyond a milliwatt or two. A little checking and a email to wayne gets me a reply in less than 12 hrs. (this is service!) He suggests I goofed on a torroid with the insulation. Not a bad guess since I had only wound 3 before in my life! All the voltages checked out but needed an rf probe. (I had to build one.....\$2.00 in parts beats the retail price of \$100+ for my fluke meter rf probe). Sure enough, problem traced to one of the torroids (L8) in the 20 meter module band pass filter of the pre mixer. Remove some insulation, re solder and presto: 1.5 sizziling watts! Not sure if I want more power, may actually run in at 1 watt. (To compensate for the 3 element monobander at 66 feet).

Anyway, this is great rig. If I can build it and only make one mistake it is obviously well designed. The manual is well written and although there is no hand holding (ala heathkit) it is clear and concise. The circuit description is excellent as well. Finally, it has a sturdy case and nifty lactches to take off the top and show it off to interested parties. Will try to get the 40 meter module going next in the contiued hunt for the fox of the week. Having such a small, sensitive rig now has me thinking about getting a licence to operate XE1/Ve6gk this february!

73 and 72 and a special thanks to wayne burdick N6KR.....now, if we can just get him to work on ssb and a variable filter bandwith etc etc while I work on an s meter and maybe a digital readout!

\*\*\*\*\*  
Dr. Rick Zabrodski BSc, MD, CCFP(E) \* VE6GK  
Email: zabrodsk@med.ucalgary.ca \* NorCal 519 ARCI 7099 GQRP 8329  
Phone 403-271-5123 Fax 403-225-1276 \* "Power is no subsitute for skill"  
\*\*\*\*\*

From owner-qrp-l@netcom.com Wed Dec 28 10:17:58 1994  
From: PeterWK8S@aol.com

Date: Wed, 28 Dec 1994 09:16:16 -0500  
Message-Id: <941228091613\_617323@aol.com>  
Subject: Anyone with Sierra Kit...

Anyone who bought a Sierra kit who may have changed their minds about it please email me. I will gladly buy your unbuilt kit from you. I missed my chance to buy one.

email Pete at peterwk8s@aol.com

From owner-qrp-l@netcom.com Wed Dec 28 10:58:03 1994  
Date: Wed, 28 Dec 1994 07:38:34 -0600 (CST)  
From: Theodore Drake <tdrake@metronet.com>  
Subject: Re: asdf  
Message-Id: <Pine.HPP.3.90.941228073503.13246F-1000000@fohnix.metronet.com>

I'm sure no offense was intended Mont, this list is just very fortunate to have a LOT of helpful folks. I've experienced the same sort of thing and find it downright heartwarming to see the spirit of fellowship which exists in this group.

73 'Doc' W5TB  
Arlington, Texas

On Tue, 27 Dec 1994, Mont Pierce wrote:

> >  
> > At 08:09 AM 12/27/94, Mont Pierce wrote:  
> > >who qrp-l  
> > >  
> > >--  
> >  
> > send you request to listserv@netcom.com  
>  
>  
>  
> Alright already. Come on guys. I've received about 20+ notes  
> telling me what I did was wrong. I know it. I just made a stupid  
> mistake. Okay?  
>  
> 72 es sri abt tt,  
> km6wt  
>

From owner-qrp-l@netcom.com Wed Dec 28 16:49:51 1994  
From: stockton@stockton.ppco.com  
Message-Id: <9412282057.AA13818@stockton.ppco.com>  
Subject: Autek RF analyzer

Date: Wed, 28 Dec 94 14:57:24 -0600

Speaking of the Autek analyzer - I obtained one a couple of months ago and just got to using it yesterday. It is a nice piece of equipment, but seems to me it can be confusing because it displays both L and C for all devices. For example, if I put an inductor across it, it will display the inductance ok, but it then computes the required capacitance for resonance at the selected freq and displays it also. So what if I have an antenna and don't know if it is short or long? The Autek doesn't tell you which it is measuring and which it is calculating (L or C).

Now that I have officially and publically displayed my ignorance, maybe you or someone with more Autek experience can tell me if there is an easy way to tell if an antenna is capacitive or inductive.

```
+++++
Glen E. Stockton                ges@ppco.com
Bartlesville, OK                K5UP
+++++
```

From owner-qrp-l@netcom.com Thu Dec 29 00:50:07 1994  
From: ab4el@Cybernetics.NET (Stephen Modena)  
Message-Id: <9412290432.AA24471@Cybernetics.NET>  
Subject: BOATANCHORS subscriptions  
Date: Wed, 28 Dec 1994 23:32:38 -0500 (EST)

I had a problem sending the requested info, Dan.

```
> Date: Wed, 28 Dec 94 23:16:23 EST
> From: Mailer-Daemon (Mail Delivery Subsystem)
> Subject: Returned mail: User unknown
> ----- Transcript of session follows -----
> Connected to fennel.acc.com:
> >>> RCPT To:<Johnson_Dan@ACC.com>
> <<< 550 <Johnson_Dan@ACC.com>... User unknown
> 550 Johnson_Dan@ACC.com... User unknown
```

Subscription info to BOATANCHORS:  
ftp to SunSITE.unc.edu  
get /pub/academic/agriculture/agronomy/ham/BOATANCHORS/subsription.faq

Or contact me directly.

--

73/Steve/AB4EL ab4el@Cybernetics.NET in Raleigh, NC

From owner-qrp-1@netcom.com Wed Dec 28 17:16:59 1994  
Date: Wed, 28 Dec 94 15:00:22 -0600  
From: adams@chuck.dallas.sgi.com (chuck adams)  
Message-Id: <9412282100.AA23864@chuck.dallas.sgi.com>  
Subject: E(RMS) and E(p-p)

Well I knew it was too good to be true. I screwed it up and probably big time. As I didn't keep a copy, I'll get it from the archives tomorrow and try it again.

Someone pointed out that I should have had an 8 instead of a 2 in the last formula. Let me check it out and get back to you. So throw out the posting and I'll give out a new one.

Paul, AA4XX, gave me his results showing  $E(p-p) = 0.300V$  givesw 216 uW and that's what I get with the calculator. So, we'll give out a new table tomorrow when I don't have to type the whole thing in again.

Sorry about that, but remember what I said at the end of the posting. :-)

To err is human, to forgive is divine. ---- Alexander Pope

dit dit

Happy New Year and may all your contacts be new DX.

Chuck Adams K5FO CP-60 adams@sgi.com

From owner-qrp-1@netcom.com Wed Dec 28 22:46:48 1994  
From: K7YHA@aol.com  
Date: Wed, 28 Dec 1994 21:34:12 -0500  
Message-Id: <941228213410\_1142221@aol.com>  
Subject: Re: E(RMS) and E(p-p)

Dear Pope Chuckus - I

I was going to comment on your calculations by referring you to the 1993 ARRL HB (the most current one I own), chapter 35, pg 35-37, table 40. It shows the procedure for converting P-P voltage to RMS and then figuring power....they use RMS squared divided by the resistance of the load (not twice the

resistance as your earlier post describes).

Pax, dude

72 rich

From owner-qrp-l@netcom.com Wed Dec 28 16:39:26 1994  
From: RobCap@aol.com  
Date: Wed, 28 Dec 1994 14:58:50 -0500  
Message-Id: <941228145850\_841169@aol.com>  
Subject: Fixed my 40-30

I found the problem with the 40-30. The consensus was that the problem was localized around U4. I got out the trusty troubleshooting schematic, and checked voltages around U3 and U4.

Sure enough, the U3 values were perfect, and all of the U4 values were way off, starting with the input side of U4.

This narrowed the search down considerably, and I checked for parts placement problems and solder defects.

I don't really feel too bad. My first inspection looked like everything was in order. But with a magnifying glass and a light shining up through the board I found a very small solder bridge. Voila. Instant success.

The troubleshooting schematic is an excellent tool, and for all of you guys who wrote to me with good suggestions (three suggestions to look at U4, and about five to check my soldering), thanks for the help.

71XXXX.....++++????????!!!!!!!???? 72,

Rob, WA3ULH

From owner-qrp-l@netcom.com Wed Dec 28 22:44:07 1994  
Date: Wed, 28 Dec 1994 19:20:10 -0700  
Message-Id: <199412290220.TAA15902@Freenet.HSC.Colorado.EDU>  
From: aq328@Freenet.HSC.Colorado.EDU (Roger J. Wendell)  
Subject: For Sale

For Sale:

MFJ 9040 40 meter CW Transciever ("upgraded"  
by factory) \$125.00

HTX 100 10 meter CW/SSB digital transciever



NEVER used (except for initial test) \$135.00

Micronta 12 Volt/2.5 Amp Power Supply  
old but hardly used \$25.00

Quement in-line Dual Meter SWR Bridge  
Model SWB-3 old \$15.00

Will consider offers and shipping. WB0JNR  
Respond direct to: aq328@freenet.hsc.colorado.edu

--

Roger J. Wendell aq328@freenet.hsc.colorado.edu  
P.O. Box 460101  
Aurora, Colorado 80046-0101 USA

From owner-qrp-l@netcom.com Wed Dec 28 00:45:37 1994  
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org (Mike Czuhajewski)  
Subject: Re: Fox Hunting: Lotsa Fun  
Date: Tue, 27 Dec 94 23:26:25 EST5EDT  
Message-Id: <1994Dec27.232625.12559@wb3ffv.ampr.org>

The origin of the term "72"? Someone typed in "73" but they were using a Pentium :-). Actually, it was suggested by the Russian QRPers several years (as detailed in a Strays item in QST and other places) and the various QRP societies around the world decided it was worth taking up. Meaning--"Good QRPing", or something very close to that. 73 and Queue Our Pea DE WA8MCQ

--

Mike Czuhajewski, user of the UniBoard System @ wb3ffv.ampr.org  
E-Mail: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org  
The WB3FFV Amateur Radio BBS - Located in Baltimore, Maryland USA  
Supporting the Amateur Radio Hobby, and TCP/IP InterNetworking

From owner-qrp-l@netcom.com Wed Dec 28 20:53:42 1994  
Message-Id: <199412282359.PAA06299@mail3.netcom.com>  
Date: Wed, 28 Dec 94 14:44:35 CST  
From: "Michael T. Weaver, RN Ph.D." <NURS036@UABDPO.DPO.UAB.EDU>  
Subject: Full-Wave Loop Antenna Question

After a number of years off the air, including a move from Ohio to Alabama, I'm starting to re-assemble a station.

Right now, I'm trying to decide on the best approach for an antenna.

I have several 40-foot trees on the property, and have decided to try a full-wave loop fed with ladder line. The problem comes in deciding

whether to put up an 80-meter loop or a 40-meter loop.

The 40-meter loop would be pretty much square and about 10 feet off the ground (I'll be feeding it for vertical polarization.). The 80-meter loop would be rectangular (less efficient than a square configuration), and about 7 feet off the ground (again, fed for vertical polarization).

Right now, I'll be limited to 40 meters (My old SB-104A, which I was going to use at QRP levels, did not completely survive the move and years of storage, so I'll be using a soon-to-be-completed NE40-40. No, I don't have the time to fix up the SB104A - I (think) I know what's wrong with it, but finding the parts, unsoldering, soldering, & more trouble-shooting is just too much of a hassel right now...), but would eventually like to have 80-10 capabilities.

Anyway, will there be an appreciable difference in efficiency between the 40-meter loop and the 80-meter loop used on 40 meters? The shape & height above ground wouldn't be as good for the 80-meter loop, but will the extra wavelength of wire at 40 Meters make up for that?

I can live without 80 meter coverage (or just put up an 80-M dipole) for now, but as a QRP Newbie, would like to have the best antenna system I can put up.

All thoughts/experiences/guesses would be welcome!

- - - - -  
Michael T. Weaver, RN Ph.D.  
U. of Alabama at Birmingham            Internet: nurs036@uabdpdpo.dpo.uab.edu  
School of Nursing                      Bitnet : nurs036@uabdpdpo  
UAB Station                             Radio : kg8h ( qrp arc1 # 8576 )  
Birmingham, AL 35294-1210            Phone : (205) 934-6913  
- - - - -

From owner-qrp-l@netcom.com Wed Dec 28 22:38:30 1994  
From: Johnson\_Dan@AAC.COM  
Message-Id: <9412290533.22621.AC@smrouter.AAC.COM>  
Date: Wed, 28 Dec 94 21:29:00 PST  
Subject: Re: Full-Wave Loop Antenna Question

On 12/28/94 14:44 CST, Michael T. Weaver wrote:

> Anyway, will there be an appreciable difference in efficiency between the  
> 40-meter loop and the 80-meter loop used on 40 meters? The shape & height  
> above ground wouldn't be as good for the 80-meter loop, but will the extra  
> wavelength of wire at 40 Meters make up for that?

I've heard that full-wave loops work only on their odd harmonics and definitely

do NOT work well on their even harmonics due to phase cancellation. Is that theory correct in practice?

Is it practical to build a loop for operation in two modes, one like a normal loop, and the other by breaking the loop at the far end of the feedline and inserting a resistor (alternate between them with a relay?)? Now, is that a 40 loop broken for 80 or an 80 loop broken for 40? Is this even worth considering at QRP[p] levels?

In a way, I'm being lazy and not looking it up, but my references don't speak of the micro-efficiencies of these arrangements, assuming QRO levels as they do.

Anyone caught Ernie-W8MVN and asked him the specifics of his duplex loop (think it's a 40M full wave mounted above another 40M full wave)? Feed, phasing, geography, etc? One of these days I'm gonna engage him and ask about that. The man gets out.

```
+-----  
| 6 6  
\ | 2 (2 + 17) + 1 de Dan-KC4EWT  
\ |
```

QTH: Herndon, VA nr Washington, D.C.  
Internet: Johnson\_Dan@AAC.COM  
Packet: KC4EWT@N4WJN.#NOVA.VA.USA.NOAM

From owner-qrp-1@netcom.com Wed Dec 28 22:25:15 1994  
From: Johnson\_Dan@AAC.COM  
Message-Id: <9412290533.22621.AB@smrouter.AAC.COM>  
Date: Wed, 28 Dec 94 21:12:00 PST  
Subject: How can one subscribe to the boatanchors digest?

Aha! AB4EL mentioned the boatanchors reflector and alluded to the availability of a digest for it. Does anyone know how I might subscribe to that digest?

Please reply to me personally to avoid clog. If anyone else on qrp-1 expresses interest (again, with a personal msg please), I'll pass it along or make a single post with the answer, unless I'm stupid and the only ham on the planet who doesn't know how to get the boatanchors digest, that is!

Mni tnx es

```
1  
+- +-  
| 6 6 | 2  
| 2 (2 + 17) | + 1 de Dan-KC4EWT  
+- +-
```

QTH: Herndon, VA nr Washington, D.C.  
Internet: Johnson\_Dan@AAC.COM  
Packet: KC4EWT@N4WJN.#NOVA.VA.USA.NOAM

From owner-qrp-1@netcom.com Wed Dec 28 15:38:00 1994  
Date: Wed, 28 Dec 1994 11:32:47 -0800 (PST)  
From: John Dundas <ab6dg@netcom.com>  
Subject: Re: Is Autek still there?  
Message-Id: <Pine.3.89.9412281136.A19570-0100000@netcom15>

Keep the faith!

I ordered mine 12/2 (according to Autek), and received it 12/24--so you probably either have yours by now, or will in a few days. I'm now happily measuring the impedance of bedsprings, ladders, and chainlink fences!  
72 de John, AB6DG

On Tue, 27 Dec 1994 JEVERHART@cayman.vf.ge.com wrote:

> I may be out at the very least a Christmas present. In early December, my wife  
> mailed away to Autek for one of those neat Antenna Analyzers that are  
> advertised in QST. I've heard that they were backlogged, so I tried to call  
> them today (12/27). Ma Bell says that the number from the ad, (813) 871-3805,  
> has been disconnected and there is no new number for them. Anybody know  
> whether or not there is a new number? Are they still in business? As of a few  
> years ago, mail order folks were required to notify their customers if they  
> could not ship within 30 days and give them a chance to cancel their order if  
> this was too long. I haven't heard anything from them.

>  
> I want my Analzer!

>  
> 72/73,  
>  
> Joe E. N2CX  
>

From owner-qrp-1@netcom.com Wed Dec 28 19:37:08 1994  
From: JEVERHART@cayman.vf.ge.com  
Date: Wed, 28 Dec 1994 18:25:29 -0500 (EST)  
Message-Id: <941228182529.2164f22e@cayman.vf.ge.com>  
Subject: Re: Is Autek still there? -YES!!!!!!

Wow guys,

Yesterday I queried whether or not Autek was still in business since the phone number I called had been disconnected.

Thanks to all of you who responded to me. I was informed that the phone number I called had been changed. The new phone number was in the December QST - leave it to me to look in an older magazine 8-). When I called the new number today, the friendly folks at Autek assured me that they had moved, but the mail was forwarded and best of all...they had shipped the Analyzer Express Mail on Dec 23!

That was this morning. Naturally it showed up in this afternoon's mail! I'm a super-happy camper and am also measuring everything in sight. I still have a few days left 'til I have to go back to work. What kinda skywire can I get up? Let's see, I think I had a couple hundred feet of #8 copperweld around here somewhere....

72/73,

Joe E. N2CX

From owner-qrp-l@netcom.com Wed Dec 28 19:14:26 1994  
Date: Wed, 28 Dec 94 16:24:10 -0600  
From: adams@chuck.dallas.sgi.com (chuck adams)  
Message-Id: <9412282224.AA24634@chuck.dallas.sgi.com>  
Subject: NorCal 40a

Gang,

In looking through the files I see that Jan 1, 1995 was listed as the cutoff date for orders from Northern California QRP Club for the NorCal 40a. You don't have too much time to get your order in before it's too late. :-)

Just member #40 and I don't get paid for this notice. :-)  
I just don't want to see people miss out on what promises to be a good rig.

dit dit

Chuck Adams K5FO CP-60 adams@sgi.com

From owner-qrp-l@netcom.com Wed Dec 28 12:35:10 1994  
Date: Wed, 28 Dec 1994 10:37:06 EST  
From: RTRC25A@prodigy.com (MR PRESTON J DOUGLAS)

Message-Id: <013.02476706.RTRC25A@prodigy.com>  
Subject: NW80/20

-- [ From: Preston Douglas \* EMC.Ver #2.10P ] --

OK guys, has anyone built the NW80/20 yet? (From Dan's Small parts and kits.) I have the manual for which he charges \$3.00 refundable against orders. The manual is gorgeous. Construction of the single board is in modules which are tested as sections are completed--all computer generated overlays. Does the kit measure up, and how does it play when it's done? Anybody know? I'm thinking of adding 80m to my collection of qrp rigs.

Also, why not fox hunt on 80m occasionally? Skip too short during reasonable early evening hours? (I always try to answer my own questions.)  
Preston WJ2V

From owner-qrp-1@netcom.com Wed Dec 28 12:16:40 1994  
Date: Wed, 28 Dec 94 10:05:54 -0600  
From: adams@chuck.dallas.sgi.com (chuck adams)  
Message-Id: <9412281605.AA22974@chuck.dallas.sgi.com>  
Subject: Power Levels

Gang,

Several have asked me how to get the accurate power level measurements that are sometimes required to check SWR/Power Meters, etc.

I'll use the 1995 ARRL handbook, but other years will suffice also.

A "pure sine wave" at a constant voltage amplitude, A, will have the form

$$E(t) = A * \sin( f(t) ), \text{ where } f(0), f\text{-sub-zero or}$$

f-sub-naught as pronounced in English, is the fundamental frequency and E is the instantaneous voltage measured at time t.

The "Peak" voltage is A, i.e.  $E(pk) = A$ .

The "Peak-to-Peak" voltage is  $2 * A$ ,

$$E(p-p) = 2 * A.$$

The "RMS" voltage is  $A / \sqrt{2}$  or  $A * 0.707$ ,

$$E(RMS) = 0.707 * A.$$

Now the power P is calculated as  $I * E$  or  $(E/R) * E = E^2 / R$ .

$$P(RMS) = E(RMS) * E(RMS) / R \quad \text{or}$$

$$P(RMS) = E(RMS) * E(RMS) / Z \quad \text{for AC}$$

$$P(RMS) = 0.500 * A * A / Z = 0.5 * A^2 / Z$$

$$P(RMS) = E(p-p) * E(p-p) / (2 * Z)$$

Assuming a SWR of 1:1, i.e. a purely resistive load at the antenna and a 52 ohm resistive impedance, we can plug in some voltage values and see what we come up with. Remember that it is easier to read with more accuracy the Peak-to-Peak values on a CALIBRATED scope, thus this must be done with some laboratory standard reference along the line somewhere to insure accuracy and precision.

| E(p-p) volts<br>----- | Power (Watts)<br>-----              |
|-----------------------|-------------------------------------|
| 16.125                | 5.00                                |
| 14.422                | 4.00                                |
| 10.198                | 2.00                                |
| 7.211                 | 1.00                                |
| 5.099                 | 0.50                                |
| 3.606                 | 0.25                                |
| 2.280                 | 0.10                                |
| 1.612                 | 0.050 (50 mW)                       |
| 0.228                 | 0.001 ( 1 mW)                       |
| 0.007211              | 0.000001 (1 uW) where u is Greek mu |

At the lower levels one usually uses an attenuator to generate calibrated output levels. This is usually the technique used by AA2U, WA8MCQ, and others at the mW and uW levels.

NOW, the most important thing here gang is not the transmitter, but the antenna systems at the source and destination and you have just gotta have the most selective and sensitive receiver you can afford at the receiving end. Directivity is everything here. Just sit down and do the calculation for the voltage at the receiving point for an Isotropic source (a very difficult

thing to do) and moving the receiver away from the source for a known power level, say 1 mW. You can see why we went through the discussion on ERP and the protests against advanced and expensive antenna systems. :-) :-) The laws of Physics are very powerful and can't be repealed by any court that I know of.

Food for thought from K5F0. And I hope that did the math correctly. :-)  
I know that I'll hear about any errors, so I'm exposed here. :-)

dit dit

Chuck Adams K5F0 CP-60 adams@sgi.com

From owner-qrp-1@netcom.com Wed Dec 28 16:46:19 1994  
From: lhalliday@creo.bc.ca  
Date: Wed, 28 Dec 94 13:13:10 PST  
Message-Id: <9411287886.AA788649190@mail.creo.bc.ca>  
Subject: RSGB Radio Communication Handbook

My copy of the brand-new just-published 6th edition just arrived, and a note to the list is definitely in order...

The RSGB take a very different approach to their Handbooks than the ARRL. While the material covered is similar, there is a heavy emphasis on "why" as well as "how". Homebrewing seems much more popular in Europe, and there is a vast amount of information on tinkering and experimentation - witness chapters like "Building Blocks". There is no specific QRP chapter, but there are lots of QRP-related projects - most European countries have much lower power limits (and more expensive electricity) than Canada and the U.S.

If you want a copy, lean on your favourite supplier of ham radio books. You can get it direct from the RSGB (ring +44 1707 659015; they take credit cards), but be warned it will by default come by surface mail, which may take some time...

The powder-blue book is the 5th edition, which you may still see in shops; the one with clouds and images projected onto spheres and cubes is the 6th. The 5th edition is still a fine book, if a little dated.

Yes, I am an RSGB member, but I have no financial connection with any of their publications.

73 from Burnaby,  
laura VE7LDH



From owner-qrp-1@netcom.com Wed Dec 28 17:26:28 1994  
From: RobCap@aol.com  
Date: Wed, 28 Dec 1994 14:56:48 -0500  
Message-Id: <941228145646\_839791@aol.com>  
Subject: Solution for Calibrating the 40-30

Dave Benson e-mailed me with the calibration fix to the 40-30 (Small Wonder 30). Dave wrote:

"If you're unable to get the Local Oscillator into just the right range, try the 1-turn-removed toroid flavor and add a small disk capacitor in the range of 22 to 47 pF in parallel with (across the two leads of) the toroid. Let me know if you need those parts and I'll ship 'em right out."

I had a 33 pf capacitor handy, and it soldered easily to L1 underneath the board. The fix worked like a charm. The rig works between 10,100 thru 10,127.

Dave was very polite. I thought I had read the instructions cover to cover, but the technique is documented in the troubleshooting section (where else?) and I missed it.

I fired the rig up and called an 8-Land station in Akron, OH, and worked him on 1 watt. Cannot wait to chase a little DX with this jewel over the weekend.

72.000 to 72.027,

Rob, WA3ULH

From owner-qrp-1@netcom.com Wed Dec 28 18:56:09 1994  
Date: Wed, 28 Dec 1994 15:52:54 -0600 (CST)  
From: Bob Howle <bhowle@freud.inst.com>  
Subject: Test Ignore  
Message-Id: <Pine.SOL.3.90.941228155213.9639A-100000@freud>

Test.

From owner-qrp-1@netcom.com Wed Dec 28 17:26:37 1994  
From: RobCap@aol.com  
Date: Wed, 28 Dec 1994 15:00:09 -0500  
Message-Id: <941228150008\_839512@aol.com>

Subject: Tip for the QRP digest

Steve-

Have been reading the QRP digest (thanks). I agree with the guys who suggest the Fox hunting stuff become a separate group. If the consensus does not agree, I wonder if you could make it an option for the daily digest?

i.e., a choice between the entire digest (whopper, regular please); or the digest less the fox hunt info (whopper, hold the pickles please). Could this be automated?

I wouldn't shed a tear if the Fox hunting stuff hit the bit bucket. I'm not anti Fox, by the way. I think it's great fun, and I may do some myself.

This is just a question of mail/time management.

73 - 1 = 72,

Rob, WA3ULH

From owner-qrp-l@netcom.com Wed Dec 28 20:53:20 1994  
Date: Wed, 28 Dec 1994 18:38:20 -0500 (EST)  
From: Stephen Modena <ab4el@Cybernetics.NET>  
Subject: Re: Tip for the QRP digest  
Message-Id: <Pine.SUN.3.91.941228182849.4810A-1000000@server0>

Well, first I replied privately...then I read my QRP-L incoming account and then noticed that the note to me had been also sent to the list. SO here's a forwarding of my reply to Rob. --de Steve AB4EL

Rob wrote:

> Have been reading the QRP digest(thanks).I agree with the guys who suggest  
> the Fox hunting stuff become a separate group. If the consensus does not  
> agree, I wonder if you could make it an option for the daily digest?  
>  
> i.e., a choice between the entire digest (whopper, regular please); or the  
> digest less the fox hunt info (whopper, hold the pickles please). Could this  
> be automated?  
>  
> I wouldn't shed a tear if the Fox hunting stuff hit the bit bucket. I'm not  
> anti Fox, by the way. I think it's great fun, and I may do some myself.  
> This is just a question of mail/time management.

Well, I just decided not to respond to the first time [when I received

the very same enote privately].....it wasn't that I didn't receive the suggestion.

The choice is clear: digest (whole) or no digest. :^)

Yes, it is a matter of time management: my time preparing and mailing the digest \*each\* day. I've automated a portion of it. I did it when quite a large number of people unsubscribed after the move from think.com to netcom.com...because netcom uses MajorDomo which does not have an automated digest feature.

I was relieved when BOATANCHORS moved to a new host and began offering a digest. That digest, BTW, is fully automated...no opportunity to subset it into "select topics."

On the other hand, because of the amount of posting about developing equipment condition descriptors, the owner of the host machine (a non-ham urologist that loves to hack Unix and Internet) just enabled a new, temporary-as-long-as-needed discussion list for just that single topic. His machine, his software, he is paying for the Internet connect...he can set up and fold elists at his discretion. If you want to move fox hunting to it's own list for segregation purposes, you'll have to pay for it, I think.

N1IST is the owner of QRP-L, hosting at a nationwide provider NetCom.com. When the entire list was unsubscribed somehow on Xmas Eve...N1IST didn't seem to be aware of it. Several days later I called his place and left a message. I have received no return call...he's probably away on Xmas vacation.

I emailed (using \*my\* facilities that \*I\* pay for) everyone on the FOX HUNT CRIBSHEET to let them know to resubscribe. It came in handy, I think. I was offered the full [subscriber] list...but have yet to receive it. I would cull out those addresses I've notified and who have resubscribed, then let the rest know about resubscribing. [Using m]y facilities, my time.

Digest or no digest...that's how my time management priorities are at the moment. :^)

--

73/Steve/AB4EL      modena@SunSITE.unc.edu      ab4el@Cybernetics.NET

From owner-qrp-l@netcom.com Wed Dec 28 00:43:38 1994  
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org (Mike Czuhajewski)  
Subject: Re: VFO - Build for Stability  
Date: Tue, 27 Dec 94 23:22:55 EST5EDT

Message-Id: <1994Dec27.232255.12559@wb3ffv.ampr.org>

Just a few comments to add to the good thoughts about VFO stability.

Double bearing means having some sort of bearing or support on both ends of the shaft, not just one end. Ideally, they should be ball bearings on both ends for best results. The caps which only have a bearing on one end of the shaft will work, but not as well--they won't be as mechanically stable.

He said to use yellow toroids, type 6, but the white type 7 is slightly better than type 6, with 30 ppm vs. 35 ppm stability. They may not be as easy to come by, though more people are stocking them. (They have been around for quite a few years but only fairly recently started getting attention.)

I'm not convinced that a Vackar is necessarily the best. Some people will swear by Franklins, Colpits, Hartleys, Seilers, etc. As I seem to recall, the QST article in 1993 or 1994 by W7Z0I stressed the importance of stability of the frequency determining components themselves rather than any one given topology. (Everyone has their favorite oscillator circuit type which is superior to all other types :-)

As for putting Q-dope on the coils, be very sure you have the frequency range you want and that you are really happy with it, since it's a pain to have to remove Q-dope. I speak from experience--I had to adjust the coil in a VFO once, and they had already Q-doped it; I ended up stripping it completely, scraping off the Q-dope residue (very easy) and rewinding the coil with fresh wire. (And when I was done and satisfied with the range, I put Q-dope on it myself!)

73 and Queue Our Pea DE WA8MCQ

--

Mike Czuhajewski, user of the UniBoard System @ wb3ffv.ampr.org  
E-Mail: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org  
The WB3FFV Amateur Radio BBS - Located in Baltimore, Maryland USA  
Supporting the Amateur Radio Hobby, and TCP/IP InterNetworking

From owner-qrp-1@netcom.com Wed Dec 28 19:00:40 1994  
Subject: Re: VFO - Build for Stability  
From: john.moriarity@com2bbs.com (John Moriarity)  
Message-Id: <aa.6224.200@com2bbs.com>  
Date: Wed, 28 Dec 1994 12:42:00 -0800

I agree with Mike Cjuhajewski that the Vackar isn't necessarily the only (or best) way to stablilty. Similarly, excellent oscillators can be made with bipolar transistors.

I would like to see the technical justification for "High inductance low capacitor best...". (BTW, 172pF at 7Mhz doesn't seem all that low.)

Anyone who would understand oscillators should read Chapter 7 of Introduction to Radio Frequency Design, by Wes Hayward (published by Prentice-Hall). I haven't received my Jan 95 QST yet, but I noticed a post recently (Mike?) saying it was back in print and advertised somewhere in that issue. It's probably the best \$30 you could spend on ham radio.

72, 73, Happy new Year,

John, K6QQ

|                           |                             |
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